

ABSTRACT OF THE DISCLOSURE

A plasma processing method for a specimen which is placed on a specimen table disposed in a processing chamber having plural layers of films laminated on a surface thereof, by using plasmas formed in the processing chamber above the specimen table. When a layer of a lower film is processed after an upper layer in the plural layers of the films is processed, at an initial stage of the processing and a post-stage, a temperature difference of coolants, passing through each of coolant passages formed at a central portion in the specimen table and at an outer circumferential portion, is approached more to a target value, and a pressure difference of a heat conducting gas, supplied between a rear side of the specimen and the specimen table, between one at a central portion and the other at an outer circumferential portion of the specimen is adjusted to a small value.